

REMARKS

The undersigned notes with appreciation the withdrawal of the restriction requirement.

In accordance with the Examiner's instructions, an Information Disclosure Statement, PTO-1449 form, and copies of the references identified in the disclosure of the present invention are being submitted concurrently herewith.

The Examiner's objection to Figure 5 of the drawings has been noted; however, the necessary corrections to correlate the reference numerals in the specification with those of the drawing figure has been made to the specification in this amendment, rather than to the drawings. It is therefore believed that the objection to the drawings has been overcome by this amendment and, accordingly, withdrawal of the objection is respectfully requested.

Claims 1 to 15 remain in the application. Claims 1, 8 and 15 have been amended by this amendment. The indication that claim 8 (and therefore dependent claims 9 to 14) is drawn to allowable subject matter is noted with appreciation.

Claims 1 and 15 have been rejected under 35 U.S.C. §112 as failing to comply with the enablement requirement. Specifically, as to claim 1, the Examiner states that "It is unclear to what Applicant is intended by 'input time-customer matrix' and 'output time-customer matrix'." What applicant means by the latter of these phrases is that the invention produces an allocation of resources to customers over multiple discrete time periods. For example, Customer 5 at Time 3 should receive 7 units of a Resource. This can be represented as a matrix indexed by customers and time periods, and the entries denote the amounts of resources demanded by the customers at particular time periods. Claim 1 has been amended to recite "generating an input matrix of customer demands for resources indexed by customers and time periods where a benefit function is known in advance", and the output matrix is now recited to be similarly indexed. These recitations are saying the same thing as the originally presented claim but perhaps in a clearer way. Support for this can be found throughout the specification and, especially, in the description of the special case of the Web Server Farm Problem set out on pages 7 and 8 and the supporting mathematical descriptions of the problem.

As to claim 15, the Examiner states that “It is unclear as to what Applicant is intended by ‘customer class’.” In response, claim 15 has been amended. to delete the word “class”. It is believed that this amendment removes any question as to the enablement requirement on this particular point. The Examiner will recognize that the term “customer” has been used throughout the specification and claims and, therefore, should be clearly understood by one skilled in the art.

Further as to claim 15, the Examiner states that “The specification also fails to disclose ‘providing time to scrub the old site . . . to reboot the server and to load new site in which the server has been allocated . . .’ in such a was as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.” Page 3, lines 24 to 26, of the specification states “This represents the time to “scrub” the old site (customer data) to which the server was allocated, to reboot the server and to load the new site to which the server has been allocated.” (emphasis added). “Scrubbing the old site” refers to erasing the data (for security or other purposes) of the previous customer to whom a server was allocated. Rebooting and loading the new customer’s data is well understood by those skilled in the art.

In view of the foregoing amendments and explanations, it is believed that the rejection of claims 1 and 15 under 35 U.S.C. §112, first paragraph, has been overcome and, accordingly, withdrawal of the rejection is respectfully requested.

Claim 8 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner noted that there was insufficient antecedent basis for the limitations of “the state sets”, “the benefit function” and “the problem to the analogous maximum-close network flow problem” recited in the claim. In response, claim 8 has been amended to change the definite articles “the” to the indefinite articles “a” or “an”, as appropriate. As amended, it is believed that the rejection has been overcome and, therefore, allowance of claim 8 and dependent claims 9 to 14 is respectfully requested.

Claim 15 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner noted that there was insufficient antecedent basis for the limitations “the assumption”, “each site’s demand”, “the old site” and “the service provider”. In response, claim 15 has been amended to change the definite articles “the” to the indefinite article “a” or

“an”, as appropriate, and likewise to change “each” to the indefinite article “a”. As amended, it is believed that the rejection as been overcome and, accordingly, withdrawal of the rejection is respectfully requested.

Claims 1 to 7 have been rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,216,593 to Dietrich et al. This ground of rejection is respectfully traversed in view of the amendments above and remarks below.

The present invention discloses a benefit task system and method for allocating resources to maximize some benefit which can be tangible or intangible. Web server “farms” are used so that service providers can benefit from economies of scale and sharing of resources among multiple customers. However, due to a limited number of servers and overhead incurred to change the allocation of a server from one site to another, a system can become overloaded and customer requests may be left unserved and, possibly, lost. Solution of this problem is based on information regarding future loads to achieve close to the greatest possible revenue based on the assumption that revenue is proportional to the utilization of servers and differentiated by customer class. The method of server allocation uses an approach which reduces the Web server farm problem to a minimum-cost network flow problem, which can be solved in polynomial time. Similar solutions are applicable to other resource allocation problems.

The patent to Dietrich et al. fails to teach or anticipate the claimed invention. Dietrich et al. describe a system for reducing computational effort in the areas of production planning and logistics, scheduling, distribution and resource allocation (see abstract of Dietrich), but fails to either teach or suggest solving a task system benefit problem of the type claimed. While the use of a server for a single time interval can be considered a resource as defined in Dietrich et al. and the demand for a server in a single time interval can be considered as an activity as defined in the reference (where a given customer may have demand for more than one server, each such unit demand would be considered a separate activity), the claimed invention solves a problem with a feature not found in Dietrich et al., specifically, that of reallocating a server from one customer to another makes that server unavailable for one time interval, whereas a server is not “lost” for a time interval it remains allocated to the same customer in successive time intervals. To

emphasize this difference, claim 1 has been amended to recite "wherein . . . reallocating a resource from a first customer to a second customer makes that resource unavailable to the first customer during a time interval that the resource is allocated to the second customer". As amended, it is believed that claim 1 defines over the patent to Dietrich et al. and, therefore, withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1 to 7 and 15 be allowed together with claims 8 to 14, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



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